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### Midsummer Scouting for Downy Mildew and other Soybean Diseases

By XB Yang, Department of Plant Pathology and John Kennicker, Iowa State University Extension

Summer soybean disease scouting is revealing some interesting finds due to several years of unusual weather. This is the third year in a row that Iowa has had a cool summer. The summer of 2006 was cool, but not wet; this year and last year, cool and wet.

Downy mildew, usually a later season disease, showed up the end of July and with more incidence than normal in many sentinel plots in Iowa, according to John Kennicker ISU Extension sentinel plot agronomist. Early downy mildew is only one of the unique 2008 soybean disease events.

**Downy mildew** is a fungal disease prevalent in a cool, wet season. Infected soybean leaves have regular shape, small lesions defined by a few cells. The lesions are pale or light yellow in color on the upper surface of the leaves. On the underside of the infected leaves, the lesions are grey in color with turf like mycelium which can be seen with the bare eye. The lesions are found in the upper plant because the fungal spores are airborne. Defoliation can occur when the disease level is high.



**Downy mildew. X. Li - 2008**

This disease usually occurs later in the fall in Iowa, and previously, no yield reduction due to downy mildew has been documented in Iowa. But downy mildew does affect seed quality. Affected soybean seeds have white mycelium on the seed coat which can be mistaken as white mold.

High incidence of this disease is now occurring in Iowa, with some fields over 80 percent, according to Kennicker's reports. Soybean seed growers that find high levels of this disease should consider fungicide use to control the disease. Fungicides that have already been applied to the soybeans should sufficiently manage this disease.

**Sudden death syndrome** has shown up since the first of August in both research plot and production fields in central Iowa, even though we had a late planting season. As usual, the disease was prevalent in fields planted before the third week of May. SDS may also show up in early September, with less intensive symptoms, in fields planted after the third week of May since the planting season was cool and wet. We expect to see more SDS in Eastern and central Iowa than western Iowa this year.

Preventative measures are a key to reducing the risk of SDS, and scouting helps identify the need for preventative measures. This is a good time to scout for SDS, especially in fields where SDS has not been found previously. Pay attention to early planted soybean fields. Symptoms of this disease are characterized by inter-venial necrosis. A major management measure is to use tolerant varieties and such varieties are available in most seed companies. Other management measures are discussed in an [article on the Soybean Extension and Research](#) Web site.

**White mold** infects soybean plants during flowering time under a closed soybean canopy. Although the summer is cool and wet, the risk of white mold is lower when beans are planted later and have wide open row space during flowering, which is the case for the majority of Iowa soybean fields this summer. However, if a field which had white mold previously was planted earlier and has a dense canopy at flowering, the disease risk will be high. Beans planted late with narrow row or drilled soybean have a higher possibility of having white mold infection, but the severity may be less depending on the density of canopy.

In a summer like this year, producers should watch fields with either of the following conditions: 1) previously had white mold, and 2) have a densely closed canopy during flowering. The denser the canopy is during the flowering time, the higher the risk is in fields with a history of white mold. During scouting, pay close attention to fields with dense canopy and check for white mold mushrooms.

We often have reports of this disease late in August. For more details on white mold refer to July 14 ICM article, [White Mold Control in a Flood Year](#).

**Other diseases.** Brown spot, bacterial blight, and *Cercospora* leaf blight continue to be prevalent in many areas; frog-eye leaf spot is being detected, but at lower incidence, according to extension field agronomist and sentinel plot reports. These diseases will likely be problems this fall if weather continues to be wet as the crop season progresses.

*XB Yang is a professor of plant pathology with research and extension responsibilities in crop diseases. John Kennicker is an extension field agronomist with sentinel plot responsibilities.*

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